

UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF ILLINOIS  
EASTERN DIVISION

SLOAN VALVE COMPANY, )  
a Delaware corporation, )  
 )  
Plaintiff, )  
v. )  
ZURN INDUSTRIES, INC., )  
a Delaware corporation, )  
 )  
and )  
ZURN INDUSTRIES, LLC, )  
a Delaware limited liability company, )  
 )  
Defendants. )

Case No. 1:10-cv-00204

Judge: Hon. Amy J. St. Eve

Magistrate Judge: Hon. Sidney I.  
Schenkier

REDACTED VERSION

**MEMORANDUM OF LAW IN SUPPORT OF  
PLAINTIFF SLOAN VALVE COMPANY'S MOTION FOR  
SUMMARY JUDGMENT ON INFRINGEMENT AND INVALIDITY ISSUES**

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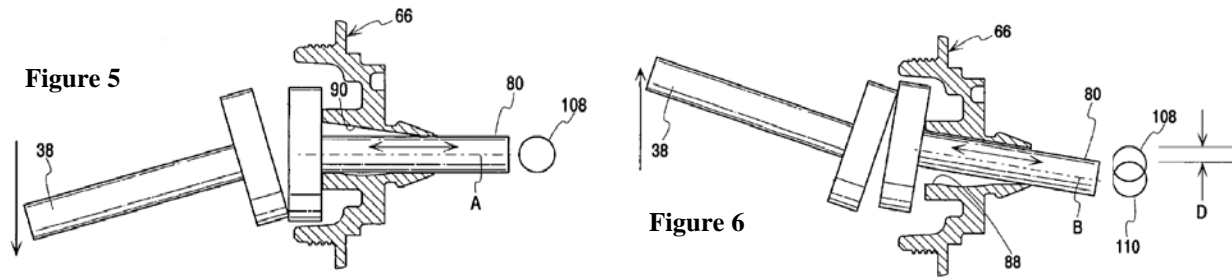
## **I. INTRODUCTION**

Plaintiff Sloan Valve Company (“Sloan”) alleges that Defendants Zurn Industries, Inc. and Zurn Industries, LLC (collectively, “Zurn”) has infringed and is infringing Sloan’s U.S. Patent No. 7,607,635 (the “*Wilson* patent”) and that Zurn violated Sloan’s provisional rights after Zurn knew of the existence of the application for the *Wilson* patent and prior to the issuance of the patent. Dkt. 197. Zurn denies infringement, and has asserted affirmative defenses and counterclaims alleging invalidity and unenforceability of the *Wilson* patent. Dkt. 281.

In this motion, Sloan asks for summary judgment that Zurn has directly infringed claims 1, 4-6, 10-11, 19, and 29-31 of the *Wilson* patent. Sloan further asks for summary judgment on Zurn’s anticipation and obviousness defenses with respect to all asserted claims of the *Wilson* patent other than claim 12, and on all of Zurn’s other invalidity defenses (pertaining to alleged failures to comply with the best mode, enablement, and written description requirements) with respect to all asserted claims.

## **II. FACTUAL BACKGROUND AND STAGE OF THE PROCEEDING**

The *Wilson* patent is directed to an improvement in commercial flush valves: a dual mode flush valve. The improvement is a mechanism which allows a user to select either a full flush volume required to evacuate solid waste or a reduced flush volume sufficient to evacuate liquid waste, depending on the direction in which the user moves the flush handle. Cross sectional representations of one embodiment of the dual mode flush valve handle of the *Wilson* invention, showing the handle (38), bushing (68), and plunger shank (80) for both a full flush (Figure 5) and for a reduced flush (Figure 6), are shown below:



Ex. 6, *Wilson* patent, Figs. 5 & 6.

Application No. 11/211,273, which ultimately issued as the *Wilson* patent, was filed with the United States Patent and Trademark Office (USPTO) on August 25, 2005. Pl.’s Stmt. Pursuant to L.R. 56.1(a)(3) ¶ 8 (“Sloan Stmt.”). The *Wilson* patent issued on October 27, 2009. *Id.* ¶ 9. John R. Wilson is the inventor of the *Wilson* patent. *Id.* ¶ 10. Mr. Wilson is an employee of Sloan. Sloan is the owner of all right, title, and interest in the *Wilson* patent by way of assignment from Mr. Wilson. *Id.* ¶ 11.

On January 13, 2010, Sloan initiated this patent infringement lawsuit and alleged that Zurn has infringed and continues to infringe the *Wilson* patent. *Id.* ¶ 14; Dkt. 1.<sup>1</sup>

On September 17, 2010, Zurn filed with the USPTO a request for *ex parte* reexamination of the *Wilson* patent. See Dkt. 314-13 at 36 (Request for *Ex Parte* Reexamination). The USPTO granted Zurn’s request and ordered *ex parte* reexamination of the *Wilson* patent on December 8, 2010. On September 27, 2011, the USPTO issued an *Ex Parte* Reexamination Certificate for the *Wilson* patent after rejecting Zurn’s invalidity arguments. Dkt. 314-3 at 40.

The parties have completed fact and expert discovery. The Court held a *Markman* hearing on August 28, 2012 and issued its claim construction order on September 13, 2012. Dkt. 391. The Court has not yet set a trial date for this case.

<sup>1</sup> The asserted claims at issue in this case are claims 1, 4-8, 10-12, 14, 19, 29-31, and 33-34 of the *Wilson* patent. Sloan Stmt. ¶ 15; Dkt. 197 at 14.

The facts in support of this motion are set forth in Plaintiff Sloan Valve Company's Statement Pursuant to Local Rule 56.1(a)(3) ("Sloan Stmt."); the Affidavit of Julius Ballanco in support of Sloan's Motion for Summary Judgment ("Ballanco Aff."); the Declaration of Jason A. Berta in support of Sloan's Motion for Summary Judgment ("Berta Decl."), and the exhibits thereto, all filed concurrently herewith, as well as other documents filed and produced by the parties in this litigation already filed with the Court, referenced by docket index number where appropriate.

### **III. SUMMARY JUDGMENT STANDARD**

Summary judgment is appropriate if the record shows that no genuine issue of material fact exists and judgment as a matter of law is warranted. Fed. R. Civ. P. 56(a). A genuine issue of triable fact exists only if a reasonable jury, when presented with the evidentiary record, could return a verdict for the nonmoving party. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). In determining summary judgment motions, "facts must be viewed in the light most favorable to the nonmoving party only if there is a 'genuine' dispute as to those facts." *Scott v. Harris*, 550 U.S. 372, 380 (2007).

The party seeking summary judgment bears the burden of establishing the lack of any genuine issue of material fact. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 322-23 (1986). After "a properly supported motion for summary judgment is made, the adverse party 'must set forth specific facts showing that there is a genuine issue for trial.'" *Anderson*, 477 U.S. at 255; *see also id.* at 247-48 ("[T]he mere existence of *some* alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment; the requirement is that there be no *genuine* issue of *material* fact.") (emphasis in original).

#### IV. SLOAN IS ENTITLED TO SUMMARY JUDGMENT THAT ZURN DIRECTLY AND LITERALLY INFRINGES CLAIMS 1, 4, 5, 6, 10, 11, 19, 29, 30, AND 31 OF THE *WILSON* PATENT

The only non-infringement argument Zurn has raised as to claims 1, 4-6, 10-11, 19, and 29-31 of the *Wilson* patent is that the Zurn product does not meet the limitation of each of those claims that the Court has held to require that the plunger “is capable of sliding along the horizontal axis and tilting and sliding along an axis of plunger travel that is at an angle to the horizontal axis” because—according to Zurn—the plunger in the accused Zurn product does not travel along a straight path for the *entirety* of its travel path. That argument presents purely an issue of law: it has no merit unless the “horizontal axis of plunger travel” and the “axis of plunger travel that is at an angle” the Court referred to in its September 13, 2012 claim construction ruling must be straight lines that extend for the *entire* path of plunger travel. The record of the *Markman* hearing reveals that *Zurn stipulated in open court that “the entire plunger travel path does not have to be straight. A portion of it has to include an axis.”* Thus the issue of law is easily resolved.

Because *both* parties’ experts agree—and *both* experts’ test results show—that the plunger in the accused Zurn product travels in a straight horizontal direction for at least a portion of the entire length of plunger travel in the “full flush” mode, and travels in a straight line at an angle to the horizontal for at least a portion of the entire length of plunger travel in the “reduced flush” mode, no genuine issue of material fact remains as to Zurn’s infringement of claims 1, 4-6, 10-11, 19, and 29-31 of the *Wilson* patent.

##### A. Legal Standards for Direct Infringement.

Direct infringement exists when one “without authority makes, uses, offers to sell, or sells” a patented product or process within the United States. 35 U.S.C. § 271(a). To prove direct infringement, a plaintiff must establish by a preponderance of the evidence that one or

more claims of the patent read on the accused device literally or under the doctrine of equivalents. *Spansion, Inc. v. ITC*, 629 F.3d 1331, 1349 (Fed. Cir. 2010). Patent infringement analysis is a two-step process. First, the court determines the scope and meaning of the asserted patent claims, and second, the properly construed claims are compared to the accused device. *Lisle Corp. v. A.J. Mfg. Co.*, 398 F.3d 1306, 1312 (Fed. Cir. 2005). While the first step is a question of law for the Court, the second step is a question of fact. *Id.* at 1312-13. To prove literal infringement, the patentee is required to show that the accused device contains every limitation in the asserted claims. *Riles v. Shell Exploration & Prod. Co.*, 298 F.3d 1302, 1308 (Fed. Cir. 2002). If one limitation is missing or not met as claimed, there is no literal infringement. *Id.*

Here, summary judgment on the issue of direct infringement is proper.

**B. The Claims of the *Wilson* Patent Do Not Require That The Plunger Travel in a Straight Line Horizontally For the Entirety of Its Travel During the Full Flush Mode, or in a Straight Line at an Angle For the Entirety of Its Travel During the Reduced Flush Mode.**

**1. The Court Never Construed Any Claim Term As Requiring That the Entire Path of Plunger Travel has to be a Straight Line.**

Claims 1, 4-6, 10-11, and 29-31 each contain (or depend from a claim that contains) the claim term “plunger mounted for sliding and tilting.”<sup>2</sup> Sloan Stmt. ¶ 16. On September 13, 2012, the Court construed the term “plunger mounted for sliding and tilting” to mean:

Mounted so the plunger is capable of sliding along the horizontal axis and tilting and sliding along an axis of plunger travel that is at an angle to the horizontal axis.

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<sup>2</sup> Or its stipulated equivalent. See Dkt. 369 at 4 (Revised Joint Claim Construction Chart).

*Id.*; Dkt. 391 at 40. Thus, according to the Court’s construction, each of claims 1, 4-6, 10-11, and 29-31 require the plunger to be capable of “sliding along the horizontal axis” and “tilting and sliding along an axis of plunger travel that is at an angle to the horizontal axis.”

Claims 1, 4-6 and 19 each contain (or depend from a claim that contains) the claim term “tilting the inner end of the plunger.”<sup>3</sup> Sloan Stmt. ¶ 17. The Court construed the term “tilting the inner end of the plunger” to mean:

Tilting the inner end of the plunger so that the plunger is at an angle to the horizontal plunger travel axis.

*Id.*; Dkt. 391 at 40. Thus, according to the Court’s construction, each of claims 1, 4-6, and 19 require the plunger be capable of tilting “at an angle to the horizontal plunger travel axis.”

The court also construed the term “axis of plunger travel” to mean “axis on which the plunger travels.” Sloan Stmt. ¶ 18; Dkt. 391 at 40.

The Court never said that “along the horizontal axis,” “along an axis of plunger travel,” “the horizontal plunger travel axis” or “the axis on which the plunger travels” requires travel in a straight line for the **entirety** of the plunger’s travel path. Sloan Stmt. ¶ 19.

**2.     Zurn Stipulated at the *Markman* Hearing that “the Entire Plunger Path Does Not Have to Be Straight” and that only “a Portion of It Has to Include an Axis.”**

At the August 28, 2012 *Markman* hearing, counsel for Sloan raised the point that if Zurn were to contend that the *Wilson* patent claims require that plunger travel in a straight line for the entirety of its travel path, such a construction would violate a fundamental rule of patent claim construction:

Mr. Florsheim: Then there’s one last question I have, which isn’t really answered in Zurn’s papers, about what Zurn means by its

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<sup>3</sup> Or its stipulated equivalent. See Dkt. 369 at 5 (Revised Joint Claim Construction Chart).

proposed construction. Its construction requires a straight line of travel. And the question is, does it require that the entire lateral movement of the plunger be in a straight line or is it sufficient that part of that lateral movement be in a straight line?

If their construction requires the entire lateral movement to be in a straight line, this claim would not even cover the preferred embodiment, which, as the Court knows, is not a proper construction.

...

So, if you were going to construe this as requiring that the entire path be straight, you'd have a construction that wouldn't even cover the only disclosed embodiment. I don't know if Mr. McIlvaine, or whoever is speaking for the other side, is going to address their animation, but I'll make some points about that on rebuttal if they do.

Ex. 7, *Markman* Tr. 106:21-107:24, Aug. 28, 2012.

When Zurn's counsel reached this claim term, the Court asked him specifically about this issue:

The Court: In your proposal for construing "axis of plunger travel," you reference a straight line. How does that coincide with Figures 5 and 6 [of the *Wilson* patent]?

Mr. Wolski: Your Honor, if I could bring up Figures 5 and 6 on the slide.

The Court: Please.

Mr. Wolski: The straight line is denoted by what the specification discusses, Axis A and Axis B. The axes on which the plunger travels. So, the plunger movement is denoted by this back and forth. So, if I may use this highlighter just to illustrate, your Honor—

The Court: Look at Figure 6, in particular.

Mr. Wolski: Yes.

The Court: When it tilts.

Mr. Wolski: Yes.

The Court: Is that necessarily a straight line? And what is your support for that? I did not see anything in the submissions to the Court supporting that the axis must be in a straight line.

Mr. Wolski: I don't think I understand the question, you Honor, because our construction would allow for the plunger to first tilt into the position; move into it – because the claims recite “comprising”; and, then, move along an axis, which would be a straight line. So, a portion of the plunger path would not have -- ***the entire plunger path does not have to be straight. A portion of it has to include an axis.*** And that's what's depicted in Figure 6. You see here Figure 6 which shows the plunger after what we call a step function. Step function being placing it into this angled position so it can travel on that angled axis.

The Court: Okay.

*Id.* 113:19-115:1 (emphasis added). Accordingly, Zurn stipulated at the *Markman* hearing that “the entire plunger path does not have to be straight” and that only “a portion of it has to include an axis.” Sloan Stmt. ¶ 20.

As explained below, Zurn's entire non-infringement position is now based on the premise that the “axis of plunger travel”—the “axis along which the plunger travels”—must be a straight line that extend for the **entirety** of the plunger's travel path, in direct contradiction to the stipulation made by Zurn's counsel during the *Markman* hearing.

**3. Even If Zurn Had Not So Stipulated, a Construction That Required That the Entire Plunger Travel Path Be a Straight Line Would Be Erroneous As a Matter of Law.**

As Sloan pointed out in its *Markman* brief (Dkt. 326 at 3), in a consistent line of case law stretching almost 20 years, the Federal Circuit Court of Appeals has held that “it is axiomatic that a claim construction that excludes a preferred embodiment . . . ‘is rarely, if ever correct and would require highly persuasive evidentiary support.’” *Anchor Wall Sys. v. Rockwood Retaining Walls*, 340 F.3d 1298, 1308 (Fed. Cir. 2003) (quoting *Vitronics Corp. v. Conceptronic*, 90 F.3d 1576, 1583 (Fed. Cir. 1996)); *see also Modine Mfg. Co. v. U.S. Int'l Trade Comm'n*, 75 F.3d

1545, 1550 (Fed. Cir. 1996); *Hoechst Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1581 (Fed. Cir. 1996); *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1343 (Fed. Cir. 2001); *Smith & Nephew v. Ethicon*, 276 F.3d 1304, 1309-10 (Fed. Cir. 2001); *Globetrotter Software, Inc. v. Elan Computer Group, Inc.*, 362 F.3d 1367, 1381 (Fed. Cir. 2004); *OSRAM GmbH v. ITC*, 505 F.3d 1351 (Fed. Cir. 2007).

Both of the parties' technical experts agree that if Zurn's currently-asserted claim construction position were adopted, **none** of the embodiments disclosed in the *Wilson* patent would be covered by the claims of the *Wilson* patent. Sloan Stmt. ¶ 24. Sloan's expert Mr. Ballanco said this at the time of the *Markman* briefing. *Id.* Zurn's expert Mr. Magee so testified at his more recent deposition. *Id.* (citing Ex. 8, Magee Dep. 106:17-116:19, May 7, 2013). In particular, Mr. Magee provided the following testimony:

Q: Thank you. And is that -- is it your opinion that the Wilson patent itself doesn't show you how to make a flush valve where the plunger would travel along a straight line from beginning to end horizontally for the full flush and at angle for the reduced flush?

A: I believe they got it wrong in the patent.

Q: So what's the answer to my question, yes or no?

A: The answer is no. Maybe the answer should be yes. It doesn't show you. If you were - - if you were to make a bushing as shown in the Wilson patent, it would not give you the axis A and B as shown in the patent; nor - - nor would the - - the quote tilted angle follow the wall of the bushing as shown in the Wilson patent.

Ex. 8, Magee Dep. 113:8-114:2.

Q: I am asking whether the invention that's described, if you followed the instructions of the invention described in the Wilson patent, would you wind up with a valve where the plunger travel path for the full flush position would be a straight line horizontally across that would be a horizontal axis of plunger travel?

A: As you actuate the handle down.

Q: As you actuate the handle down?

A: No, it could not happen.

Q: So the invention described in the patent would not have a straight axis of - - horizontal axis of plunger travel all the way across; is that right?

Mr. Wolski: Objection to form.

A: I agree. That's my understanding, yes.

*Id.* 114:20-115:13.

**4. There is Nothing in the Specification or the File History of the Wilson Patent That Provides “Highly Persuasive” Evidence—or Any Evidence Whatever—that the Claims Require Straight Line Plunger Travel for the Entirety of the Plunger Travel Path.**

The specification of the *Wilson* patent not only provides no support for Zurn's construction – it refutes it.

As noted above, and further explained below, both Mr Ballanco and Mr. Magee agree that the plunger of the embodiment described in the *Wilson* patent specification does not travel along a straight horizontal path for the *entirety* of its travel when operated in the “full flush” mode. Yet the *Wilson* patent specification repeatedly refers to this path of plunger travel as “travel along the horizontal axis.” *See, e.g.*, Ex. 6, *Wilson* patent, col 2 lines 22-23 (“the plunger travels along the horizontal axis”); col 3 line 32 (“it will move in the horizontal axis”); col. 5 lines 17-18 (“the plunger remains centered on the horizontal plunger travel axis”); col. 5 lines 38-39 (“the plunger travels on the horizontal axis”); col 5 lines 46-47 (“the plunger will move on the horizontal axis”). Similarly, the *Wilson* patent repeatedly refers to the reduced flush path of plunger travel as “travel along the angled axis.” *See, e.g., id.*, col. 2 line 20 (“the plunger travels along the angled axis”); col. 2 lines 28-30 (“Actuation in an upward vertical direction will tilt the

plunger up and cause it to travel on the angled plunger travel axis”); col. 2 line 63 (“The plunger traveling on the angled axis”).

If Zurn’s contention that the axis along which the plunger travels must be a straight line extending for the **entirety** of the plunger’s travel path were adopted, all of these statements in the *Wilson* patent specification would be false. Thus Zurn’s proposed construction constitutes an attempt to contradict the intrinsic evidence, which the case law plainly forbids. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1324 (Fed. Cir. 2005).

**C. Applying the Proper Claim Construction, the Undisputed Evidence Establishes that Zurn Made and Sold Infringing Products.**

Zurn’s entire non-infringement position is based on the premise that the “axis of plunger travel”—the “axis along which the plunger travels”—must be a straight line that extend for the entirety of the plunger’s travel path, in direct contradiction to the stipulation made by Zurn’s counsel during the *Markman* hearing.

Zurn does not dispute the fact that the Zurn plunger is capable of traveling horizontally **for at least some portion** of its travel during the full flush mode, and that it is capable of traveling in a straight line at an angle to horizontal **for at least some portion** of its travel during the reduced flush mode. Sloan Stmt. ¶¶ 25-26.

Zurn does not challenge the existence in the accused products of any of the elements of claims 1, 4-6, 10-11, 19, and 29-31 that do not implicate Zurn’s erroneous interpretation of “axis.” *See id.* ¶¶ 27-49. Zurn also does not challenge that it has been making and selling the accused products since the commencement of this lawsuit. *Id.* ¶¶ 12-13.

**1. Zurn Bases Its Non-Infringement Argument on the Very Claim Construction It Previously Stipulated Was Not Correct.**

Zurn’s only explanation for why the accused products do not practice the “axis” claim limitations is that the plunger in its accused products does not travel along a straight line that

extend for the **entirety** of the plunger's travel path. Sloan Stmt. ¶¶ 21-22. Mr. Magee explained his interpretation of the "axis" claim language as follows:

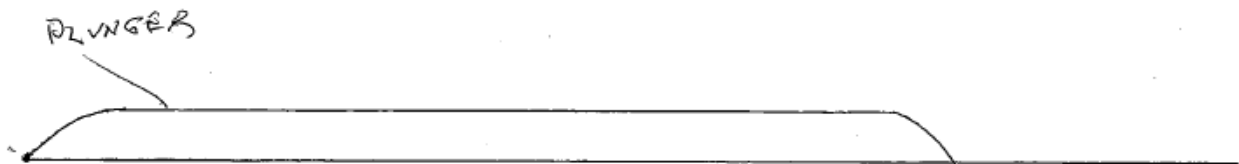
Q: So is it your understanding that in order for there to be an axis - - a horizontal axis of plunger travel, the plunger would have to travel in a straight horizontal line from the very first point at which it starts to move to the very end when it stops to move?

A: That's exactly my point and that's exactly what - - what axis A is laid out in your patent.

Q: Okay. And is it also your view that in order for there to be an angled axis of plunger travel, the plunger would have to travel on a straight line at an angle from the beginning of its travel to the end of its travel?

A: As it translates along axis B, yes.

Ex. 8, Magee Dep. 106:17-107:7. Mr. Magee was then shown the following hypothetical plunger path:



Ex. 19, Magee Dep. Ex. 612. Mr. Magee explained that in his opinion the plunger path of travel depicted above would not be a "horizontal axis of plunger travel" and that this was the basis for his opinion that the Zurn products do not infringe:

Q: Would a flush valve whose plunger traveled along that path be traveling along a horizontal axis of plunger travel?

A: A portion of the travel path, yet, but there are two sections of this path that you have not alluded to which is clearly not a horizontal path.

Q: Okay. Let me make sure my question is clear. Taking into account the entirety of what I have drawn there, all right, the sort of curve up at the beginning of the straight horizontal and then the curve down at the end, would you consider that, in your opinion, to be a horizontal axis of plunger travel?

A: That portion of the - - that portion of the path? See, I want to be very clear at what I am being asked and what I am testifying to.

Q: All right.

A: I am telling you that the path that you are drawing has got three separate sections to it. Okay. One section is horizontal but you have displaced the plunger off of the original horizontal direction to get to that point. You then go through a horizontal section - - and I would agree it's moving at a horizontal path - - but at that portion but then it comes back down again. So the path itself is not a horizontal path. Is there a portion of the path that is horizontal, yes.

Q: Your opinion of that what's described there the path of the plunger travel is not a horizontal axis of plunger travel?

A: From beginning to end, that's correct.

Q: And in your view, if it's not horizontal and straight from beginning to end, it's not covered by the patent?

A: That's my reading of the patent and looking at the drawings in the patent that's correct.

Q: And that is ultimately your basis for concluding that none of the Zurn valves is covered by the patent?

A: That's correct . . . .

Ex. 8, Magee Dep. 108:8-110:2. Mr. Magee further explained what he believes the *Wilson* patent claims cover:

Q: In order to be covered by the patent, the path from the beginning to end has to be a straight line in your view?

A: That's how I read the patent.

Q: And the path for the full flush has to not only be straight but it has to be horizontal for the entire distance?

A: That's correct. And I take that from the patent itself and the two axes that are defined in the patent.

Q: And in your opinion, in order to be covered by the patent, the angled axis of plunger travel also has to be a straight line and it has to be at an angle throughout its motion?

A: That is demonstrated and shown in the patent.

Q: Does it have to be at the same angle throughout its motion to be covered by the patent?

A: There is only one - - one angled axis called in the patent and that's axis B and that's a single axis. There are not multiple axes that I can find in the patent.

Q: So in your view - - and this is a view that informed your opinion here - - in order to have an angled axis of plunger travel, the plunger has to travel along a straight line that's at a constant angle from beginning to end?

Mr. Wolski: Objection to the form.

A: It has to travel on an axis as shown by axis B in the patent.

Q: Which is a straight line - -

A: It's a straight line. That's how the patent is written. That's how the patent is shown.

Q: A straight line from the beginning of travel to the end of travel?

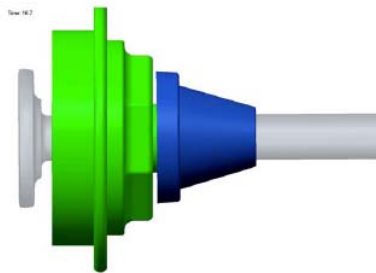
A: Right.

*Id.* 111:18-113:7. Thus, Zurn's basis for arguing that none of the Zurn accused products are covered by the *Wilson* patent is because it interprets the *Wilson* patent claims as covering a "horizontal axis of plunger travel" that requires a plunger to travel in a straight horizontal line from beginning to end, and an "angled axis of plunger travel" that requires a plunger to travel in a straight angled line from beginning to end. Sloan Stmt. ¶ 23.

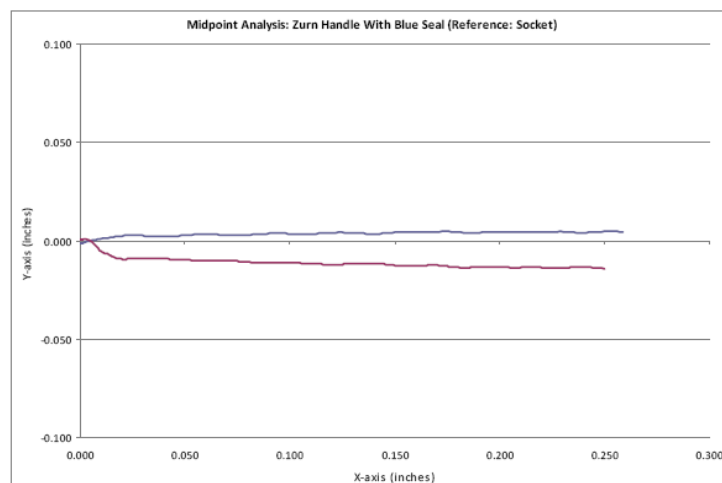
**2. Both Parties' Experts Agree that the Plunger in the Zurn Products Travels Along a Straight, Horizontal Axis for a Portion of Its Travel in the "Full Flush" Mode and Along a Straight, Angled Axis for a Portion of its Travel in the "Reduced Flush" Mode.**

Sloan's expert, Mr. Ballanco, has analyzed the paths that the plunger of the Zurn product follows in the "full flush" and "reduced flush" modes and has shown that the Zurn plunger travels in a straight, horizontal line for a large portion of its travel in the "full flush" mode and in

a straight line at an angle to horizontal for a large portion of its travel in the “reduced flush” mode. Ballanco Aff. ¶ 9. Mr. Ballanco based his opinion in part on precision CAD modeling of the Zurn plunger travel prepared by Made To Measure<sup>4</sup> using a vision-type CMM (Coordinate Measuring Machine) capable of collecting measurement data on the order of ten-thousandths of an inch. Ballanco Aff. ¶ 10. A screen shot of a CAD model, which is animated to show how the entire plunger moves through the bushing passage for both the “full” and “reduced” flush volume modes, is shown below:



Ballanco Aff. ¶ 11. In addition, when Made To Measure was asked to track the travel of the midpoint of the plunger, the following data was generated:

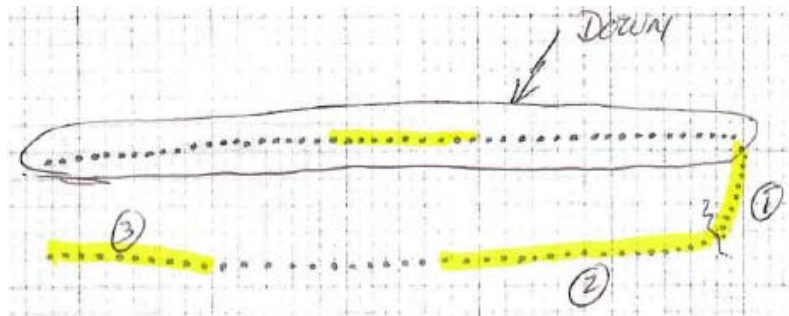


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<sup>4</sup> Made To Measure is a leading service provider in the measuring industry that provides a variety of measuring, dimensional inspection, and reverse-engineering-related services. Ballanco Aff. ¶ 10.

*Id.* ¶ 12. Based on this and other data, Mr. Ballanco has opined that the Zurn plunger travels in a straight, horizontal line for a large portion of its travel in the “full flush” mode (blue line in above graph) and in a straight line at an angle to horizontal for a large portion of its travel in the “reduced flush” mode (red line in above graph). *Id.* ¶ 9.

The plunger travel analysis conducted by Zurn’s expert, Mr. Magee, also shows that the plunger of the accused product travels in a straight, horizontal line for a portion of its travel in the full flush mode and in a straight line at an angle to the horizontal for a portion of its travel in the reduced flush mode. Mr. Magee bases his opinion on a series of “plot diagrams” that purportedly show the path of the tip of the plunger as it travels during actuation of the flush valve handle, as shown in the example below:



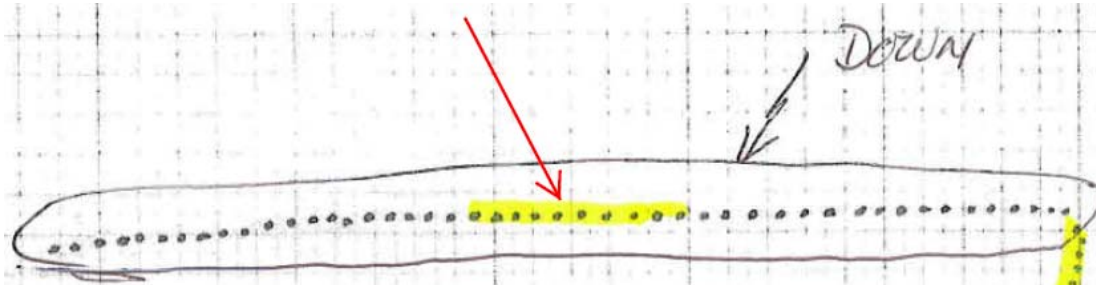
Ex. 9, Magee Dep. Ex. 607.

According to Mr. Magee, in the above example, the dots that are circled show how the tip of the Zurn plunger travels when the handle is actuated in the down “full flush” direction. Ex. 8, Magee Dep. 100:19-101:23. Mr. Magee testified that, when the handle is pushed down in the full flush mode, the Zurn plunger travels along a horizontal path for at least some portion of its travel:

Q: Based on the test results that you observed, would you agree that there is some portion in each case of the full flush plunger travel path that is horizontal?

A: Yes, I would.

*Id.* 116:10-14. Mr. Magee identified a section in the middle of the “full flush” plunger travel path where the dots appeared to be moving horizontal, *id.* 102:3-22, identified by the red arrow shown below:



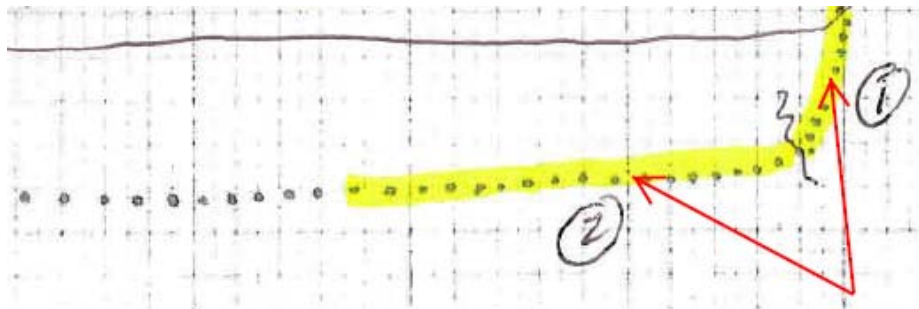
Ex. 9, Magee Dep. Ex. 607 (red arrow added).

Mr. Magee further testified that his plot diagrams show that the plunger of the accused product travels in a straight line at an angle to horizontal for at least some portion of its travel. Mr. Magee testified that, when the handle is pulled up in the reduced flush mode, the Zurn plunger travels along a path that is at an angle to horizontal for at least some portion of its travel:

Q: And would you agree based on your observations of the test that in each case there is some portion of the reduced flush plunger travel path that is a straight line towards an angle?

A: Yes, I would.

Ex. 8, Magee Dep. 116:15-19. Mr. Magee identified sections of the “reduced flush” plunger travel path where the dots were moving at an angle to the horizontal, *id.* 103:3-17, identified by designations “1” and 2” shown with red arrows below:



Ex. 9, Magee Dep. Ex. 607 (red arrows added).

Thus, even though each party's expert criticizes the other's methodology, they both agree on the critical "bottom line" fact. Therefore, applying the proper construction to the patent claims—that the claims do not require that the plunger travel in a straight path for its entire path of plunger travel, but rather, as Zurn's counsel stipulated at the *Markman* hearing, "the entire plunger path does not have to be straight"—there is no dispute as to the material facts: the plunger of the Zurn products travels in a straight, horizontal line for at least some portion of its travel during the full flush mode, and travels along a straight line that is at an angle to horizontal for at least some portion of its travel during the reduced flush mode. Sloan Stmt. ¶¶ 25-26.

As shown below, Zurn concedes all of the other elements of its direct infringement of claims 1, 4-6, 10-11, 19, and 29-31 of the *Wilson* patent after the issuance of that patent. *See id.* ¶¶ 27-49. Therefore, since both parties' experts agree that the Zurn plunger is capable of traveling in a straight line horizontally **for at least some portion** of its travel during the full flush mode and is capable of traveling in a straight line at an angle for **at least some portion** of its travel during the reduced flush mode, summary judgment is appropriate.

**3. There Is No Dispute Regarding The Existence In The Accused Products Of The Elements In Claims 1, 4-6, 10-11, 19, and 29-31 That Do Not Implicate Zurn's Claim Interpretation Of "Axis."**

Zurn has admitted that its accused products include all other elements of claims 1, 4-6, 10-11, 19, and 29-31 in its non-infringement contentions and in its responses to Sloan's requests for admission. Beginning on the following page is a chart summarizing the claim elements of claims 1, 4-6, 10-11, 19, and 29-31. For those claim elements that do not implicate Zurn's incorrect interpretation of "axis of plunger travel," the chart shows the evidence in the record showing they are not in dispute.

**a. Claim 1**

| <b>Claim Element</b>  | <b>Sloan Stmt. ¶</b> | <b>Record Cite of Zurn Admission<sup>5</sup></b> | <b>Record Cite of Sloan Evidence</b> |
|---|----------------------|--|--------------------------------------|
| a dual mode flush valve, comprising   | 27                   | Dkt. 448 at 6, 35.                               | Ballanco Aff. ¶ 13.                  |
| a body having an inlet and an outlet  | 28                   | Zurn Resp. RFA No. 87; Dkt. 448 at 6, 35.        | Ballanco Aff. ¶ 14.                  |
| a valve seat between said inlet and outlet  | 29                   | Zurn Resp. RFA No. 88; Dkt. 448 at 6, 35.        | Ballanco Aff. ¶ 15.                  |
| a valve member movable to a closing position on said valve seat to control water flow between said inlet and outlet                                   | 30                   | Zurn Resp. RFA No. 89; Dkt. 448 at 6, 35         | Ballanco Aff. ¶ 16.                  |
| a pressure chamber defined in said body above said valve member   | 31                   | Zurn Resp. RFA No. 90; Dkt. 448 at 6, 35.        | Ballanco Aff. ¶ 17.                  |
| a relief valve mounted on the valve member for movement between seated and unseated positions which close and open the pressure chamber, respectively | 32                   | Zurn Resp. RFA No. 91; Dkt. 448 at 6, 35.        | Ballanco Aff. ¶ 18.                  |
| a handle assembly mounted on the body and including an actuatable handle  | 33                   | Zurn Resp. RFA Nos. 43, 93; Dkt. 448 at 6, 35.   | Ballanco Aff. ¶ 19.                  |
| a bushing having a passage defined therethrough   | 34                   | Zurn Resp. RFA No. 46 Dkt. 448 at 6, 35.         | Ballanco Aff. ¶ 20.                  |
| the plunger having an outer end in engagement with the handle and in inner end engageable with the relief valve                                       | 35                   | Zurn Resp. RFA Nos. 50, 99; Dkt. 448 at 8, 37.   | Ballanco Aff. ¶ 21.                  |
| the plunger being movable to unseat the relief valve  | 36                   | Zurn Resp. RFA Nos. 51, 100; Dkt. 448 at 8, 37.  | Ballanco Aff. ¶ 22.                  |

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<sup>5</sup> “Dkt. 448” is Zurn’s Final Non-Infringement Contentions dated January 4, 2013. “Zurn Resp. to RFA” is Zurn’s Responses to Plaintiff’s Requests For Admission Nos. 38-146, a copy of which is attached as Exhibit 2 to the Berta Declaration.

|   |   |
|---|---|
| a plunger slidably and tiltably mounted in said bushing passage   | Zurn's only argument for why these elements are not met is because it has interpreted it as requiring plunger to travel on a straight line for entirety of the plunger travel paths.  |
| the bushing passage defining both a first axis of plunger travel and a second axis of plunger travel  |   |
| tilting of the handle in a first direction moves the plunger along the first axis of plunger travel providing a first flush volume of water adequate to evacuate solid waste and tilting of the handle in a second direction tilts the plunger and moves the plunger along the second axis of plunger travel providing a second flush volume of water adequate to evacuate liquid waste | Zurn admits that "tilting the handle of the accused device in a first direction provides a first flush volume of water adequate to evacuate solid waste" and that "tilting the handle of the accused device in a second direction provides a second flush volume of water adequate to evacuate liquid waste." Dkt. 448 at 9, 37-38. Zurn's only argument for why this element is not met is because it has interpreted it as requiring plunger to travel on a straight line for entirety of the plunger travel paths. |

**b. Claim 4 (Depends From Claim 1)**

| <b>Claim Element</b>   | <b>Sloan Stmt. ¶</b> | <b>Record Cite of Zurn Admission</b> | <b>Record Cite of Sloan Evidence</b>   |
|--|----------------------|--------------------------------------|--|
| an indicia on the exterior of the handle assembly to identify the location of at least one of the first axis of plunger travel and the second axis of plunger travel |                      |                                      | Zurn does not dispute that the accused products have "an indicia on the exterior of the handle assembly." Dkt. 448 at 9. Zurn's only argument for why this element is not met is because it has interpreted it as requiring plunger to travel on a straight line for entirety of the plunger travel paths. |

**c. Claim 5 (Depends From Claim 1)**

| <b>Claim Element</b>   | <b>Sloan Stmt. ¶</b> | <b>Record Cite of Zurn Admission</b> | <b>Record Cite of Sloan Evidence</b>  |
|--|----------------------|--------------------------------------|---|
| the first axis of plunger travel and the second axis of plunger travel define a vertical plane |                      |                                      | Zurn's only argument for why this element is not met is because it has interpreted it as requiring plunger to travel on a straight line for entirety of the plunger travel paths. |

**d. Claim 6 (Depends From Claim 1)**

| <b>Claim Element</b>  | <b>Sloan Stmt. ¶</b> | <b>Record Cite of Zurn Admission</b>       | <b>Record Cite of Sloan Evidence</b> |
|---|----------------------|--|--------------------------------------|
| a socket engageable with the valve body   | 37                   | Zurn Resp. RFA No. 59; Dkt. 448 at 10, 39. | Ballanco Aff. ¶ 23.                  |
| the socket having a mark thereon visible from the exterior of the valve body and indicative of the orientation of the second axis of plunger travel | 38                   | Zurn Resp. RFA No. 60; Dkt. 448 at 10, 39. | Ballanco Aff. ¶ 24.                  |

**e. Claim 10 (Depends From Claim 9)**

| <b>Claim Element</b>   | <b>Sloan Stmt. ¶</b> | <b>Record Cite of Zurn Admission</b>            | <b>Record Cite of Sloan Evidence</b> |
|--|----------------------|---|--------------------------------------|
| a flush valve including a valve body, a handle assembly (Claim 9)  | 39                   | Dkt. 448 at 15, 44.                             | Ballanco Aff. ¶ 25.                  |
| a socket engageable with the valve body (Claim 9)  | 37                   | Zurn Resp. RFA No. 59; Dkt. 448 at 15, 44.      | Ballanco Aff. ¶ 23.                  |
| the socket having an exterior portion visible from the exterior of the valve body when the handle assembly is attached to the valve body (Claim 9) | 38                   | Zurn Resp. RFA No. 60; Dkt. 448 at 15, 44.      | Ballanco Aff. ¶ 24.                  |
| a handle pivotably engaged with the socket (Claim 9)   | 33                   | Zurn Resp. RFA No. 62; Dkt. 448 at 16, 44.      | Ballanco Aff. ¶ 19.                  |
| a bushing engageable with the socket and having a non-symmetrical bushing passage defined therethrough (Claim 9)                                   | 40                   | Zurn Resp. RFA No. 63; Dkt. 448 at 16, 44.      | Ballanco Aff. ¶ 26.                  |
| said passage including a tilted portion (Claim 9)  | 41                   | Dkt. 448 at 16, 44.                             | Ballanco Aff. ¶ 27.                  |
| a plunger having an outer end in engagement with the handle (Claim 9)  | 35                   | Zurn Resp. RFA Nos. 50, 99; Dkt. 448 at 17, 46. | Ballanco Aff. ¶ 21.                  |

|   |   |                        |                     |
|---|---|------------------------|---------------------|
| the socket having a mark on said exterior portion indicative of the location of the tilted portion of the non-symmetrical bushing passage (Claim 9) | 38  | Dkt. 448 at 17-18, 46. | Ballanco Aff. ¶ 24. |
| an indicia indicative of the location of the tilt portion of the non-symmetrical bushing passage  | 42  | Dkt. 448 at 18, 46.    | Ballanco Aff. ¶ 28. |
| a plunger mounted for sliding and tilting in said non-symmetrical bushing passage (Claim 9)   | Zurn's only argument for why this element is not met is because it has interpreted it as requiring plunger to travel on a straight line for entirety of the plunger travel paths. |                        |                     |

**f. Claim 11 (Depends From Claim 10)**

| <b>Claim Element</b>                                  | <b>Sloan Stmt. ¶</b> | <b>Record Cite of Zurn Admission</b>          | <b>Record Cite of Sloan Evidence</b> |
|---|----------------------|---|--------------------------------------|
| the mark and the indicia are aligned with one another | 43                   | Zurn Resp. RFA No. 67; Dkt. 448 at 18, 46-47. | Ballanco Aff. ¶ 29.                  |

**g. Claim 19 (Depends From Claim 18)**

| <b>Claim Element</b>  | <b>Sloan Stmt. ¶</b> | <b>Record Cite of Zurn Admission</b>             | <b>Record Cite of Sloan Evidence</b> |
|---|----------------------|--|--------------------------------------|
| a retrofit system for a flush valve system which can provide at least two flush volumes of water during operation, a first flush volume required for removal of solid waste and a second flush volume required for removal of liquid waste (Claim 18) | 44                   | Dkt. 448 at 20-21, 49.                           | Ballanco Aff. ¶ 30.                  |
| a user handle and coupled face plate (Claim 18)   | 45                   | Zurn Resp. RFA Nos. 72, 114; Dkt. 448 at 21, 49. | Ballanco Aff. ¶ 31.                  |
| a bushing portion of a valve system having a bushing passage to receive a plunger (Claim 18)  | 34                   | Zurn Resp. RFA Nos. 73, 115; Dkt. 448 at 21, 49. | Ballanco Aff. ¶ 20.                  |

|  |   |  |                     |
|--|---|--|---------------------|
| the plunger engageable with the user handle face plate at a first end (Claim 18)   | 35  | Zurn Resp. RFA Nos. 74, 116; Dkt. 448 at 21, 49. | Ballanco Aff. ¶ 21. |
| the user handle operable in at least a first direction and a second direction (Claim 18)   | 45  | Zurn Resp. RFA Nos. 76, 118; Dkt. 448 at 23, 51. | Ballanco Aff. ¶ 31. |
| actuation of the user handle in the first direction causing the plunger to move laterally through the bushing passage causing release of the first flush volume of water for removal of solid waste (Claim 18)   | 46  | Dkt. 448 at 23, 51.                              | Ballanco Aff. ¶ 32. |
| actuation of the user handle in the second direction causing the plunger to tilt about the point within the bushing passage and to move through the bushing passage causing release of a second flush volume of water for removal of liquid waste (Claim 18) | 47  | Dkt. 448 at 23, 51.                              | Ballanco Aff. ¶ 33. |
| the bushing passage configured to accommodate a tilting of the first end of the plunger and a pivoting of the plunger about a pivot point defined within the bushing passage (Claim 18)  | Zurn admits that a “pivoting of the plunger about a pivot point defined within the bushing passage” is present in the accused products. Dkt. 448 at 22, 51. Zurn’s only argument for why this element is not met is because it has interpreted it as requiring plunger to travel on a straight line for entirety of the plunger travel paths. |  |                     |
| a first plunger travel axis is disposed substantially horizontally in the bushing passage and a second plunger travel axis is disposed within the bushing passage at an angle to the first plunger travel axis   | Zurn’s only argument for why this element is not met is because it has interpreted it as requiring plunger to travel on a straight line for entirety of the plunger travel paths.   |  |                     |

#### h. Claim 29

| Claim Element | Sloan Stmt. ¶ | Record Cite of Zurn Admission | Record Cite of Sloan Evidence |
|---------------|---------------|-------------------------------|-------------------------------|
|---------------|---------------|-------------------------------|-------------------------------|

|   |    |   |                     |
|---|----|---|---------------------|
| a system for operating a water flush valve in a plurality of flush volume modes   | 48 | Dkt. 448 at 24, 52.                                     | Ballanco Aff. ¶ 34. |
| a body having an inlet and an outlet  | 28 | Zurn Resp. RFA No. 87; Dkt. 448 at 24, 52.              | Ballanco Aff. ¶ 14. |
| a valve seat between said inlet and outlet  | 29 | Zurn Resp. RFA No. 88; Dkt. 448 at 24, 52.              | Ballanco Aff. ¶ 15. |
| a valve member movable to a closing position on said valve seat to control water flow between said inlet and outlet                                   | 30 | Zurn Resp. RFA No. 89; Dkt. 448 at 24, 52.              | Ballanco Aff. ¶ 16. |
| a pressure chamber defined in said body   | 31 | Zurn Resp. RFA No. 90; Dkt. 448 at 24, 52-53.           | Ballanco Aff. ¶ 17. |
| a relief valve mounted on the valve member for movement between seated and unseated positions which close and open the pressure chamber, respectively | 32 | Zurn Resp. RFA No. 91; Dkt. 448 at 24, 53.              | Ballanco Aff. ¶ 18. |
| a handle assembly mounted on the body and including an actuatable handle for achieving a plurality of flush volumes                                   | 33 | Dkt. 448 at 24, 53.                                     | Ballanco Aff. ¶ 19. |
| a bushing coupled to the handle and having a non-symmetrical cross-section passage defined therethrough   | 34 | Zurn Resp. RFA Nos. 45, 48, 95, 98; Dkt. 448 at 25, 53. | Ballanco Aff. ¶ 20. |
| the plunger having an outer end in engagement with the handle and an inner end engageable with the relief valve                                       | 35 | Zurn Resp. RFA Nos. 50, 99; Dkt. 448 at 26, 55.         | Ballanco Aff. ¶ 21. |
| the plunger being movable to unseat the relief valve  | 36 | Zurn Resp. RFA Nos. 51, 100; Dkt. 448 at 26, 55.        | Ballanco Aff. ¶ 22. |

|  |  |                     |                     |
|--|--|---------------------|---------------------|
| enabling release of a plurality of different flush volumes of water with each different volume of water associated with one of the different first axis and second axis of travel of the plunger       | 49   | Dkt. 448 at 27, 55. | Ballanco Aff. ¶ 35. |
| a plunger mounted for sliding and tilting within said bushing having the non-symmetrical cross-section passage   | Zurn's only argument for why these elements are not met is because it has interpreted it as requiring plunger to travel on a straight line for entirety of the plunger travel paths. |                     |                     |
| the non-symmetrical cross-section passage of the bushing establishing at least a first axis of plunger travel and a second axis of travel which is angled relative to the first axis of plunger travel |  |                     |                     |

**i. Claim 30 (Depends From Claim 29)**

| <b>Claim Element</b>  | <b>Sloan Stmt. ¶</b>   | <b>Record Cite of Zurn Admission</b> | <b>Record Cite of Sloan Evidence</b> |
|---|--|--------------------------------------|--------------------------------------|
| the handle assembly is mounted such that movement of the user handle in a first direction causes the plunger to achieve the at least first axis of plunger travel | Zurn's only argument for why these elements are not met is because it has interpreted it as requiring plunger to travel on a straight line for entirety of the plunger travel paths. |                                      |                                      |
| movement of the user handle in the second direction causes the plunger to achieve the at least second axis of plunger travel                                      |  |                                      |                                      |

**j. Claim 31**

| <b>Claim Element</b>                 | <b>Sloan Stmt. ¶</b> | <b>Record Cite of Zurn Admission</b>       | <b>Record Cite of Sloan Evidence</b> |
|--------------------------------------|----------------------|--|--------------------------------------|
| a dual mode flush valve              | 27                   | Dkt. 448 at 28, 56.                        | Ballanco Aff. ¶ 13.                  |
| a body having an inlet and an outlet | 28                   | Zurn Resp. RFA No. 87; Dkt. 448 at 28, 56. | Ballanco Aff. ¶ 14.                  |

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|--|--|--|---------------------|
| a valve seat between said inlet and outlet   | 29   | Zurn Resp. RFA No. 88;<br>Dkt. 448 at 28, 56.        | Ballanco Aff. ¶ 15. |
| a valve member movable to a closing position on said valve seat to control water flow between said inlet and outlet  | 30   | Zurn Resp. RFA No. 89;<br>Dkt. 448 at 28, 56.        | Ballanco Aff. ¶ 16. |
| a pressure chamber defined in said body above said valve member  | 31   | Zurn Resp. RFA No. 90;<br>Dkt. 448 at 28, 57.        | Ballanco Aff. ¶ 17. |
| a relief valve mounted on the valve member for movement between seated and unseated positions which close and open the pressure chamber, respectively  | 32   | Zurn Resp. RFA No. 91;<br>Dkt. 448 at 28, 57.        | Ballanco Aff. ¶ 18. |
| an actuatable handle having an actuatable handle face plate  | 33   | Zurn Resp. RFA No. 43,<br>93; Dkt. 448 at 28-29, 57. | Ballanco Aff. ¶ 19. |
| a plunger having a plunger face plate at a first end and engageable with the relief valve stem at a second end, the handle face plate and plunger face plate adjacent  | 35   | Zurn Resp. RFA Nos. 80,<br>122; Dkt. 448 at 29, 57.  | Ballanco Aff. ¶ 21. |
| the plunger mounted for sliding and tilting within a passage of a bushing  | Zurn's only argument for why these elements are not met is because it has interpreted it as requiring plunger to travel on a straight line for entirety of the plunger travel paths. |  |                     |
| the handle face plate configured to pivot in a first direction to cause the plunger to travel longitudinally through the passage along a first axis striking the relief valve stem at a first location, and configured to pivot in a second direction to cause the plunger to pivot about a point within the passage and travel along an angled axis of travel striking the relief valve stem at a second location |  |  |                     |

**4. Zurn Does Not Dispute That It Has Made And Sold The Accused Products During the Term of the *Wilson* Patent.**

The patent statute provides that “whoever, without authority, makes...or sells any patented invention in the United States . . . during the term of the patent, infringes the patent.” 35 U.S.C. § 271(a).

There is no dispute that Zurn has made and sold the accused products since the issuance of the *Wilson* patent, and that it continues to do so. Sloan Stmt. ¶ 12-13. Zurn’s own sales records show that it has made and sold the accused products both before and after the *Wilson* patent issued. *Id.* ¶ 12.

**V. SLOAN IS ENTITLED TO SUMMARY JUDGMENT ON ZURN’S COUNTERCLAIM AND AFFIRMATIVE DEFENSE THAT CLAIMS 1, 4-8, 10-11, 19, 28-31, AND 33-34 ARE INVALID UNDER §§ 102 OR 103**

**A. Legal Standards For Anticipation and Obviousness.**

A patent is presumed to be valid. 35 U.S.C. § 282. Generally, a party asserting affirmative defenses and/or counterclaims of invalidity (collectively “defenses”) bears the burden of establishing them. *See id.* (“The burden of establishing invalidity of a patent or a claim thereof shall rest on the party asserting such invalidity.”).

Anticipation under 35 U.S.C. § 102 requires the presence in a single prior art disclosure of each and every element of a claimed invention. *Applied Med. Resources Corp. v. U.S. Surgical Corp.*, 147 F.3d 1374, 1378 (Fed. Cir. 1998) (citing *Lewmar Marine, Inc. v. Barient, Inc.*, 827 F.2d 744, 747 (Fed. Cir. 1987)). Obviousness under 35 U.S.C. § 103 measures the difference between the claimed invention and the prior art to determine whether “the subject matter as a whole would have been obvious at the time the invention was made” to a person having ordinary skill in the art. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). Obviousness requires more than a mere showing that the prior art includes separate

references covering each claim limitation; it requires the additional showing that a person of ordinary skill in the art at the time of the invention would have combined those prior art elements in the normal course of research and development. *Id.* (citing *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007)). A party seeking to prove anticipation or obviousness must do so with clear and convincing evidence because the patent must be presumed valid. *Applied Med. Resources*, 147 F.3d at 1378; *In re Rosuvastatin Calcium Patent Litig. v. Aurobindo Pharma Ltd.*, 703 F.3d 511, 517-18 (Fed. Cir. 2012).

The local patent rules require a party to set forth its invalidity defenses in detail in its invalidity contentions. LPR 2.2, 3.1. A party's failure to disclose its defenses in invalidity contentions will bar that party from making previously undisclosed invalidity contentions at trial. *Minemyer v. B-Roc Representatives, Inc.*, No. 07 C 1763, 2010 U.S. Dist. LEXIS 98605, at \*10 (N.D. Ill. Sept. 21, 2010); *see also Ferguson Beauregard/Logic Controls, Division of Dover Res., Inc. v. Mega Sys., LLC*, 350 F.3d 1327, 1347 (Fed. Cir. 2003).

Rule 26 of the Federal Rules of Civil Procedure require witnesses who are retained to provide expert testimony to provide a written report containing a complete statement of all opinions the witness will express, the basis and reasons for them, and the facts or data considered by the witness in forming the opinions. Fed. R. Civ. P. 26(a)(2)(B). These disclosures were required to be made pursuant to the Court's scheduling order of expert discovery. *See* Dkts. 443, 471. Zurn has failed to provide either contentions or an expert report addressing entire subjects concerning the anticipation or obviousness of any of claims 1, 4-8, 10-11, 19, 29-31, and 33-34, and therefore, pursuant to the local rules and the Federal Rules of Civil Procedure, Zurn is precluded from introducing any evidence at trial on either of those entire subjects.

**B. Zurn Has Failed to Address Anticipation or Obviousness Of Claims 1, 4-8, 10-11, 19, 29-31, and 33-34 Either in Its Invalidity Contentions or in Its Expert's Report.**

When a party moves for summary judgment on an issue on which the non-moving party bears the ultimate burden of proof, the moving party may discharge its burden of production by pointed to an absence of evidence to support the non-movant's case. *Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986). Here, Zurn has the burden of proving invalidity by clear and convincing evidence. *Applied Med. Resources*, 147 F.3d at 1378; *In re Rosuvastatin Calcium Patent Litig.*, 703 F.3d at 517-18. Zurn's Amended Final Invalidity and Unenforceability Contentions dated January 4, 2013 include § 102 or § 103 invalidity contentions only as to claim 12 of the *Wilson* patent. See Dkt. 447 at 3-4. Zurn failed to provide any contentions that any of the other asserted claims of the *Wilson* patent (i.e., claims 1, 4-8, 10-11, 19, 29-31, and 33-34) are invalid as anticipated or rendered obvious in light of prior art. Sloan Stmt. ¶ 50. Zurn's failure to do so bars it from introducing evidence at trial that those claims are anticipated by or rendered obvious in light of prior art. *Minemyer*, 2010 U.S. Dist. LEXIS 98605, at \*10.

Similarly, Zurn's only expert witness on the subject of invalidity, Mr. Magee, expressed no opinion in his report as to the anticipation or obviousness of any of claims 1, 4-8, 10-11, 19, 29-31, and 33-34 of the *Wilson* patent. Sloan Stmt. ¶ 51. It is too late now—after the close of all fact and expert discovery—for Zurn to introduce such expert testimony now. See *Minemyer*, 2010 U.S. Dist. LEXIS 98605, at \*19. Accordingly, since Zurn has failed to provide either contentions or an expert report that claims citing to clear and convincing evidence—or, indeed, any evidence at all—that claims 1, 4-8, 10-11, 19, 29-31, and 33-34 of the *Wilson* patent are invalid as anticipated or obvious, it has abandoned those defenses and is precluded from introducing any evidence at trial on those subjects. Because it cannot possibly carry its burden of proving those defenses by clear and convincing evidence at trial, summary judgment that

claims 1, 4-8, 10-11, 19, 29-31, and 33-34 of the *Wilson* patent are not invalid as anticipated or obvious is warranted.

## **VI. SLOAN IS ENTITLED TO SUMMARY JUDGMENT AS TO ZURN’S BEST MODE DEFENSE**

### **A. Legal Standards For Best Mode Analysis.**

A patent’s specification must “set forth the best mode contemplated by the inventor of carrying out his invention.” 35 U.S.C. § 112 ¶ 1 (2006).<sup>6</sup> A defense of failure to disclose the best mode is a question of fact. *Eurand, Inc. v. Mylan Pharms., Inc.*, 676 F.3d 1063, 1084 (Fed. Cir. 2012) (citing *Zygo Corp. v. Wyko Corp.*, 79 F.3d 1563, 1566-67 (Fed. Cir. 1996)). To determine whether a best mode disclosure violation exists, the fact finder applies a two-prong test. First, the fact finder determines whether, at the time the application was filed, the inventor possessed a best mode for practicing the invention. *Id.* (citing *Eli Lilly & Co. v. Barr Labs., Inc.*, 251 F.3d 955, 963 (Fed. Cir. 2001)). This first prong is a subjective inquiry that focuses on “the inventor’s state of mind at the time he filed the patent application, and asks whether the inventor considered a particular mode of practicing the invention to be superior to all other modes at the time of filing.” *Id.* (quoting *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1330 (Fed. Cir. 2002)). If—and only if—the inventor considered a particular mode of practicing the invention to be superior to all other modes at the time of filing, the second prong of the inquiry requires the fact finder to determine whether the specification discloses sufficient information such that one reasonably skilled in the art could practice the best mode. *Id.* (citing *Eli Lilly*, 251 F.3d at 963). The second prong is an objective inquiry that focuses on what the specification teaches to a person of ordinary skill in the art. *Id.*

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<sup>6</sup> Congress has actually abolished the best mode defense, but only for actions filed on or after Sept. 16, 2012. See 35 U.S.C. § 282, so this defense must still be considered in this case.

Therefore, one of the essential elements of a best mode defense that Zurn would have to prove with clear and convincing evidence is that John Wilson believed that there was a particular best mode of carrying out his claimed invention. *See Teleflex*, 299 F.3d at 1330. But before an inventor can be found to have concealed his best mode, the record must first show that the inventor subjectively believed that one mode of practicing his or her invention was superior to all other modes disclosed in the specification. *Minco Inc. v. Combustion Eng'g*, 95 F.3d 1109, 1116 (Fed. Cir. 1996). Without evidence that the inventor, at the time of filing, subjectively considered there to be a particular mode of practicing the invention superior to all other modes, a best mode defense must fail. *Id.* at 1115-16 (“The record must show that the inventor considered an alternative mode superior to the disclosed mode.”); *Star Sci., Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1373 (Fed. Cir. 2011) (“Without evidence that Williams had possession of a best mode of practicing the claimed invention at the time of filing, the record cannot support invalidity under the best mode requirement.”).

Another essential element Zurn would have to prove by clear and convincing evidence is that the allegedly “concealed” best mode was not something that was already known to a person of ordinary skill in the art. It is black letter law that a patent applicant need not include in a specification that which is already known and available to the public. *Paperless Accounting, Inc. v. Bay Area Rapid Transit Sys.*, 804 F.2d 659, 664 (Fed. Cir. 1986); *see also Eurand, Inc.*, 676 F.3d at 1087 (“[Defendants] cannot meet that burden because the record indicates that skilled artisans could readily obtain the optimal dew points using a common fluid bed.”); *Liquid Dynamics Corp. v. Vaughan Co.*, 449 F.3d 1209, 1224 (Fed. Cir. 2006) (“[A]dding reducers is a routine detail and did not need to be disclosed to a person of ordinary skill in the art.”); *Koito*

*Mfg. Co. v. Turn-Key-Tech, LLC*, 381 F.3d 1142, 1156 (Fed. Cir. 2004) (details that were “standard in the industry” need not be disclosed in the specification).

**B. Zurn’s Best Mode Allegations Fail To Establish a Violation of the Best Mode Requirement.**

Zurn makes two best mode allegations, both of which fail. First, Zurn alleges that inventor John Wilson subjectively believed, at the time of filing, that there was a best angle for the tilted portion of the bushing passage of his invention. As explained below, this allegation is premised completely on Zurn’s assumption that Mr. Wilson believed the angle of the tilted portion of the bushing passage *in Sloan’s commercial embodiment* of the *Wilson* invention was necessarily the best tilt portion angle for practicing his invention. Zurn’s assumption is unsupported by any facts, and the only evidence in the record on this issue shows that Mr. Wilson did not subjectively believe, at the time of filing, that there was a particular “best” tilt portion angle to use in practicing his invention. Second, Zurn alleges that the *Wilson* patent specification failed to disclose the amount of water reduction necessary to make a dual mode flush valve that flushes 30% less water in a reduced flush volume mode, which is the percentage reduction of Sloan’s commercial embodiment. Zurn’s second allegation fails because one of ordinary skill in the art, at the time of filing would have known that if one wanted to meet the existing industry standard, that standard—ASME A112.19.14, which is cited right on the face of the *Wilson* patent—set forth the 1.6 gallon/1.1 gallon (30% reduction) ratio it required.

**C. At The Time Of Filing, Inventor John Wilson Did Not Subjectively Believe That There Was a Particular Best Angle to Use in Practicing His Claimed Invention.**

Zurn’s first best mode allegation is that inventor John Wilson subjectively believed, at the time of filing, that there was a best angle for the tilted portion of the bushing passage of his invention. Zurn cannot establish this by clear and convincing evidence. The only evidence in

the record on the issue of whether inventor John Wilson subjectively believed that a certain angle was superior to all other angles conclusively shows that he did *not* subjectively possess such a belief at the time the application for his patent was filed. Sloan Stmt. ¶ 52. At his October 14, 2010 deposition, Mr. Wilson testified as follows:

Q: What's the angle that you finally settled on?

A: Actually, I didn't settle on an angle.

Ex. 13, Wilson Dep. 69:22-24.

Q: Why didn't you put the amount of tilt in the patent?

A: There are many systems out there this can be applied to.

Q: So it will be a different tilt angle for a different system?

A: Yes.

*Id.* 74:18-24. Mr. Wilson further testified that, as to Sloan's particular commercial embodiment of his invention, he did not settle on a specific angle for the bushing wall even for that specific Sloan commercial product until after the *Wilson* patent application was filed. Sloan Stmt. ¶ 53.

Q: Well, when did you get to the point where you had the dimensions in the angle determined that exist presently in today's production version of the Sloan UpperCut handle?

A: That would be just prior to true production when all the molds were approved.

Q: When was that?

A: The exact date, I don't know.

Q: Was it in 2005?

A: I believe it was in 2005.

Q: In the first half of 2005?

A: I would have to look it up.

Q: Was it before you filed your patent application?

A: Did I finalize the molds before I submitted the application?

Q: That's the question, right.

A: No, that happened after.

Ex. 13, Wilson Dep. 77:18-78:11.

Q: At what point in time did you settle on the bore bushing profile that is opposite to what is shown in your patent?

A: The exact date, I don't recall.

Q: Was it before you filed the patent?

A: After the patent application because it was still in development at the time.

Q: So it was after you filed the patent?

A: Correct, the patent application.

*Id.* 100:6-14. This is also evidenced in an email Mr. Wilson sent his colleagues on September 30, 2005—a month after the *Wilson* patent filing date—showing that the mold used to manufacture Sloan's bushings was still being revised to account for a revised tilt angle “to increase the GPF [gallons per flush] reduction.” Ex. 14, Wilson Dep. Ex. 77.

Zurn can point to no evidence, much less clear and convincing evidence, that Mr. Wilson did subjectively believe that there was any particular “best” angle for the tilted portion of the bushing passage of his invention. In fact, Mr. Magee's opinion on the issue of best mode was based on the *assumption* that Mr. Wilson had a preferred angle of tilt:

Q: Do you have any reason to believe that Mr. Wilson had himself in his own mind a particular angle for the tilted portion in the bushing passage that he considered to be the best angle at the time he filed his patent application in August of 2005?

A: I have no definitive information that he had that but I am assuming - - assumptions can be incorrect - - that he did have an angle. He shows - - there is an angle shown in the patent drawings. And based on his testimony of all of the work he did and how long it took him to - - to come up with the - - the bore

modification, I would assume but cannot prove that he had an angle in mind.

Ex. 8, Magee Dep. 55:18-56:11. Mr. Magee's assumption is just that—an assumption—and it was made without knowledge of the material facts. First, Mr. Magee did not recall reading John Wilson's deposition testimony that he in fact did *not* subjectively possess a best mode. *Id.* 56:13-60:5. Second, when asked to identify any specific piece of evidence that showed that Mr. Wilson actually thought there was a best mode at the time of tiling, Mr. Magee could not do so. *Id.* 62:2-63:16. Instead, Mr. Magee explained that he assumed Mr. Wilson had a “pretty clear idea as to what the angle was going to be” because Sloan issued a product announcement about the commercial embodiment of the *Wilson* invention, *id.* 62:22-23, notwithstanding Mr. Wilson's testimony that he continued to modify the bushing angle after that announcement. Specifically, Mr. Magee testified as follows:

Q: So having heard all of that evidence directly from Mr. Wilson, his testimony, can you point me to any specific piece of evidence that you have seen that Mr. Wilson - - not somebody else at Sloan - - but that Mr. Wilson actually thought at the time he filed his patent application in August of 2005, that there was a particular best angle to be used for his invention, not for the commercial product at Sloan, but for his invention?

A: My only - - my only basis of answering would be his other testimony about how he continued to - - modify the angle, I believe what the angle was but I'm speculating. I do not believe that he would have made a major change and made a product announcement of what he could do without a pretty clear idea as to what the angle was going to be.

*Id.* 62:2-23.

Zurn's failure to point to any evidence that Mr. Wilson had a preferred angle in mind at the time of filing is fatal to its best mode defense. *Minco, Inc. v. Combustion Eng'g*, 903 F. Supp. 1204 (E.D. Tenn. 1995), *aff'd* 95 F.3d 1109 (Fed. Cir. 1996), is instructive. The patent at issue in *Minco* specified a crane support system for use with a rotary furnace device but the

specification did not disclose a preferred number and location of crane supports, nor a preferred number and type of drive wheels. *Id.* at 1208-10. The inventor eventually opted to use two-crane, six-wheel system in the plaintiff's production furnace. *Id.* The inventor testified that the decision to use the two-crane support system was "a production detail, not an aspect of the invention." *Id.* at 1216. The inventor also testified that he modified from a three-wheel, to a four-wheel, then to a six-wheel drive system in the months after he filed the patent application. *See id.* at 1210. The defendant presented no testimony from one skilled in the art to rebut the inventor's testimony. *Id.* at 1216. The court found, and the Federal Circuit affirmed, that the defendant failed to prove its best mode case by clear and convincing evidence. *Id.*; *see also* 95 F.3d at 1116.

Similarly, in *Teleflex, Inc. v. Ficosa North America Corp.*, 299 F.3d 1313 (Fed. Cir. 2002), the Federal Circuit affirmed the district court's grant of summary judgment of no best mode violation where a patent specification did not disclose the particular thickness of a clip used by the patentee on the commercial embodiment of a shift cable to be installed in a 1999 GM pickup truck. *Id.* at 1329-33. Quoting the district court's opinion, the Court noted that the best mode requirement does not extend to "production details," and stated that "[I]n this case, the '182 patent does not claim a cable assembly for the 1999 GM full-size pickup truck, just a cable assembly. Thus, the best mode does not include details particular to 1999 GM pickups." *Id.* at 1329, 1331. The Court further stated:

Thus, rather than showing a material fact in dispute, the evidence demonstrates that the alleged best mode information, the clip thickness and hardness matching information, was instead another example of production details that the law excepts from best mode disclosure.

*Id.* at 1332-33.

Here, John Wilson’s patent does not claim a dual mode flush handle assembly *for a Sloan flush valve*, just a dual mode handle assembly. Accordingly, just like in *Teleflex*—and contrary to Zurn’s assumption—the alleged best mode information, the angle of the tilted portion of the bushing passage of the Sloan Uppercut® commercial product, is instead a production detail that the law excepts from the best mode disclosure.

With no evidence that the inventor, at the time of filing, subjectively considered there to be a particular mode of practicing the invention superior to all other modes, Zurn’s best mode defense must fail as a matter of law. *Minco*, 95 F.3d at 1115-16 (“The record must show that the inventor considered an alternative mode superior to the disclosed mode.”); *Teleflex*, 299 F.3d at 1332-33 (affirming grant of summary judgment of no best mode violation where specification did not disclose certain details used in commercial product); *Star Sci.*, 655 F.3d at 1373 (“Without evidence that Williams had possession of a best mode of practicing the claimed invention at the time of filing, the record cannot support invalidity under the best mode requirement.”).

Not only has Zurn failed to introduce any evidence that John Wilson subjectively believed, at the time his patent application was filed, that there was a particular best angle for practicing his invention, but Zurn has also failed to demonstrate that there even exists a particular best angle to use when practicing the *Wilson* invention. Both Mr. Wilson and Mr. Magee agree that the angle of the tilted portion of the bushing passage depends on the nature of the system to which the *Wilson* invention is applied. Sloan Stmt. ¶ 54. As noted above, John Wilson testified:

Q: Why didn’t you put the amount of tilt in the patent?

A: There are many systems out there this can be applied to.

Q: So it will be a different tilt angle for a different system?

A: Yes.

Ex. 13, Wilson Dep. 74:18-24.

Mr. Magee agreed that the best angle of the tilted portion of the bushing component of the handle to use will depend on the configuration of the other components of the entire flush valve in which the handle is to be used:

Q: Okay. So what the best angle is to use for that tilt will depend on the overall configuration of the valve, how far the plunger has to travel and exactly where the stem is oriented, right?

A: The angle would be specific to the other components of that - - of that handle, that's correct. And how that handle operates. It would have to do something with the tolerances and make a difference about whether or not there is an O-ring on it but yes.

Q: So if you wanted to use Mr. Wilson's invention in one valve that had a length of the plunger travel of X, it might have a different angle than if you used it in a different valve that had a plunger travel of Y with Y - -

Mr. Wolski: Objection to form.

A: It could be, that's correct.

Q: So the best angle would depend on the number of variables on the valve itself, correct?

A: The - - for a given output, it would be dependent on the other components of the valve, that's correct. So there would be some valve specificity connected to it.

Q: So what might be the best angle for a Sloan valve might not be the best angle for a Zurn valve?

A: That is correct, but I doubt that they would be much different.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



Ex. 8, Magee Dep. 68:11-70:3. Thus it is not disputed that the specific angle one would want to in the bushing of the handle when for practicing the *Wilson* invention will depend on the nature of the entire valve in which the handle is to be used. Sloan Stmt. ¶ 54. Failure to disclose details that depend upon the nature of the system to which a claim invention is applied will not support invalidity under the best mode requirement. *See Liquid Dynamics*, 449 F.3d at 1223-24 (“The best mode requirement does not require the disclosure of ‘routine details’ that would be apparent to one of ordinary skill in the art practicing the invention.”); *see also Minco*, 95 F.3d at 1116 (“One of ordinary skill in this art knows that the number of drive wheels varies according to the type of mineral in the furnace.”).

**D. Zurn’s Expert Evidence On Best Mode Is Premised On The Improper Assumption That Sloan’s Commercial Embodiment Is The Best Mode Of Carrying Out The *Wilson* Invention.**

Zurn’s best mode allegations also fail because they are both premised on the assumption Sloan’s Uppercut® flush valve—which is a commercial embodiment of the *Wilson* invention—is the best mode of carrying out the *Wilson* patent. In his opening expert report, Mr. Magee states that “I have *assumed* that Sloan considered the Uppercut® flush valve handle or a prototype thereof to be the preferred embodiment of the ‘635 Patent as of the filing date of the patent.” Ex. 10, Magee Inv. Rpt. ¶ 43 (emphasis added); *see also* Ex. 8, Magee Dep. 63:12-16 (opining about “the commercial product that Sloan was going to put out”). This assumption is contrary to the law.

The Federal Circuit has made clear that the best mode inquiry is directed to what the applicant regards as the claimed invention, which is measured by the scope of the claims. *See Zygo Corp.*, 79 F.3d at 1567. The best mode requirement does not focus on the commercial

embodiment of an invention. *Id.* (“The focus of a section 112 inquiry is not what a particular user decides to make and sell or even in what field the invention is most likely to find success. Rather, in keeping with the statutory mandate, or precedent is clear that the parameters of a section 112 inquiry are set by the claims.”); *Wahl Instruments, Inc. v. Acvious, Inc.*, 950 F.2d 1575, 1579 (Fed. Cir. 1991) (“[T]he particulars of making a prototype or even a commercial embodiment do not necessarily equate with the ‘best mode’ of ‘carrying out’ an invention.”). Nor does the best mode requirement extend to “production details,” including commercial considerations such as equipment on hand, availability of materials, relationships with suppliers, or customer requirements. *Teleflex*, 299 F.3d at 1331; *Ricoh Co. v. Nashua Corp.*, No. 97-1344, 1999 U.S. App. LEXIS 2672, at \*15 (Fed. Cir. Feb. 18, 1999).

As evidenced by the fact that Zurn has misappropriated Mr. Wilson’s invention and used it in Zurn’s dual flush products, Mr. Wilson’s invention is applicable to more than simply the Sloan UpperCut® product. The claimed invention calls for a dual mode flush valve—not a Sloan UpperCut® dual mode flush valve. Accordingly, even if one were to assume—contrary to the evidence of record—that Mr. Wilson already determined the angle he wanted to use in the Sloan UpperCut® to obtain a 30% reduction in flush volume by the time his patent was filed, which he had not (Sloan Stmt. ¶ 52; *see also supra* at 33-40), the fact that the Sloan UpperCut® has a particular bushing angle Does not establish that Mr. Wilson subjectively believed, at the time of filing, that this angle was the best angle to use whenever practicing his invention. *Teleflex*, 299 F.3d at 1332-33. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Sloan Stmt. ¶ 55. *See Minco*, 903 F. Supp. at 1216 (finding

it “revealing” that defendant did not practice what it alleged to be the undisclosed, preferred embodiment).

**E. One Of Ordinary Skill In The Art Would Have Known To Target A 30% Reduced Flush Volume.**

For its second best mode allegation, Zurn alleges that the *Wilson* patent specification failed to disclose the amount of water reduction necessary to make a dual mode flush valve that flushes 30% less water in a reduced flush volume mode, which is the percentage reduction of Sloan’s commercial embodiment. The evidence in the record shows that one skilled in the art would have understood that a 30% reduction in flush volume for the reduced flush mode would be desired. Sloan Stmt. ¶ 56. Sloan’s technical expert, Julius Ballanco, who, unlike Mr. Magee, is an expert qualified in flush valve technology, has explained that one of ordinary skill in the art would have desired a 30% reduction in flush volume for the reduced flush mode because the existing industry standards disclosed the 1.6 gallon/1.1 gallon (30% reduction) ratio, including in ASME A112.19.14, which is cited on the face of the *Wilson* patent. Ballanco Aff. ¶ 39. As noted above, it is black letter law that a patent applicant need not include in a specification that which is already known and available to the public. *Paperless Accounting*, 804 F.2d at 664; *see also Eurand, Inc.*, 676 F.3d at 1087; *Liquid Dynamics*, 449 F.3d at 1224; *Koito Mfg. Co.*, 381 F.3d at 1156 (details that were “standard in the industry” need not be disclosed in the specification). Zurn has no evidence to refute Mr. Ballanco’s testimony that one skilled in the art would have known that a 30% reduction in flush volume was desired. Zurn admitted that the 2001 American National Standard For Dual Flush Devices issued by the ASME “sets forth performance standards for dual mode flush devices.” Sloan Stmt. ¶ 57. Mr. Magee also testified that one skilled in the art would have known about the ASME A112.19.14 industry standard that sets forth the 1.6 gallon/1.1 gallon (30% reduction) ratio:

Q: Okay. You recognize that this standard had been adopted by the American Society of Mechanical Engineers?

A: Right.

Q: Prior to 2005, correct?

A: Right.

Q: Prior to 2005?

A: That's correct. It's got a date on it 2001.

Q: So people skilled in this art of toilet design, water closet design, whatever you want to call it, would have known about this standard back in 2005, right?

A: That's correct.

Q: And they would have known that the standard called for flush volumes of 1.6 full flush and 1.1 for reduced flush, right?

Mr. Wolski: Objection to the form. Misleading.

A: If they read this one, that's correct.

Ex. 8, Magee Dep. 76:10-77:6; *see also* Sloan Stmt. ¶ 58.

Accordingly, Zurn cannot point to any clear and convincing evidence upon which a reasonable jury could rely to find it was necessary, to avoid violating the best mode requirement, for the *Wilson* patent to explain why one might want to achieve a 30% reduction in flush volume. That information was readily available and known to those skilled in the art at the time of filing of the *Wilson* patent application.

## **VII. SLOAN IS ENTITLED TO SUMMARY JUDGMENT AS TO ZURN'S ENABLEMENT DEFENSE**

### **A. Legal Standards For Enablement.**

A patent's specification must "enable a person of ordinary skill in the art to make and use the invention." 35 U.S.C. § 112 ¶ 1 (2006). This requirement is met when, at the time of filing the application, one skilled in the art, having read the specification, could practice the invention

without “undue experimentation.” *Cephalon, Inc. v. Watson Pharms.*, 707 F.3d 1330, 1336 (Fed. Cir. 2013) (citing *In re Wands*, 858 F.2d 731, 736-37 (Fed. Cir. 1988)).

In order to prevail on its enablement defense, Zurn must prove with clear and convincing evidence that the *Wilson* patent is invalid for lack of enablement. *See id.* at 1337. Determining enablement is a question of law. *Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1576 (Fed. Cir. 1984); *Streck, Inc. v. Research & Diagnostic Sys.*, 665 F.3d 1269, 1288 (Fed. Cir. 2012) (“Enablement ‘is a legal determination of whether a patent enables one skilled in the art to make and use the claimed invention.’”). The factual underpinnings of the enablement inquiry concern an “illustrative” set of factors that may be considered when determining if a disclosure requires undue experimentation. *Streck*, 665 F.3d at 1288 (listing the “*Wands* factors”). However, where there is no legitimate issue of fact regarding enablement—i.e., where Zurn fails to submit sufficient evidence from which a jury could reasonably conclude that one skilled in the art could not have followed Wilson’s specification to practice the claimed invention—judgment as a matter of law that the patent is enabling should be granted. *See id.* at 1289 (affirming grant of judgment as a matter of law that defendant failed to submit sufficient evidence from which a jury could reasonably conclude that one skilled in the art could not have followed the specification to practice the claimed invention). Thus, in the context of summary judgment, Zurn’s evidence must do more than simply raise some doubt regarding enablement. *Johns Hopkins Univ. v. Cellpro, Inc.*, 152 F.3d 1342, 1359 (Fed. Cir. 1998) (affirming grant of summary judgment that patent was enabling).

**B. Zurn’s Argument That the *Wilson* Patent is Non-Enabling Goes Only To How Long it Would Have Taken One of Ordinary Skill to Figure Out What Angle to Use to Achieve a 30% Reduction in Flush Volume.**

According to Zurn, the fact that it took Mr. Wilson several months to refine his invention into the Sloan Uppercut®, which is Sloan’s commercial product designed to achieve a 30%

reduction in flush volume, Sloan Stmt. ¶ 59, is evidence that one skilled in the art would have needed undue experimentation to make and use the invention claimed in the *Wilson* patent.

Specifically, Mr. Magee stated in his reply report:

45. In my opinion, the undue experimentation that would be required to practice the claimed invention is evidenced by the amount of time that Mr. Wilson took to arrive at a final product (i.e., January 2004 – August 2005), and Mr. Ballanco’s disclaimer that even with the disclosure of the Wilson Patent, additional fine-tuning, component compatibility testing, or other performance testing would be required to arrive at a fully functioning product.

46. I have read Mr. Wilson’s deposition, and I understand that Sloan began work on its dual mode flush valve handle in January 2004, and that the Wilson application was not filed until August of 2005. In my opinion, that alone is evidence of how long it would take one of skill in the art to make and use the Sloan UPPERCUT® based on the disclosure of the Wilson Patent, which I consider undue experimentation.

Ex. 12, Magee Reply Rpt. ¶¶ 45-46. In other words, Zurn’s entire undue experimentation argument is directed at how long it believes it would have taken a skilled artisan to figure out what tilt angle to use to achieve the 30% reduction in flush volume accomplished by the Sloan Uppercut®. However, the *Wilson* patent claims are not limited to the specific Sloan Uppercut® embodiment. Sloan Stmt. ¶ 60.

**C. The Court Has Already Ruled That the *Wilson* Patent Claims Are Not Limited to a Flush Valve That Achieves a 30% Reduction in Flush Volume.**

In the September 13, 2012 Claim Construction Opinion and Order, the Court construed “dual mode flush valve” to mean:

A water conservation valve that permits a user deliberately to select between two distinct modes of flushing a fixture: either a reduced flush volume mode adequate to evacuate liquid waste or a full flush mode adequate to evacuate solid waste.

Dkt. 391 at 16. Importantly, the Court did *not* limit the claims to a flush valve that achieves a 30% reduction in flush volume. *Id.* at 19-25. According to the Court’s construction, while the

*Wilson* patent requires a flush valve to permit two distinct flush volume modes, there is no requirement that the percentage difference between the two flush volumes be 30%. *Id.*

Rather than addressing whether, at the time of filing, one skilled in the art could practice the *claimed invention* (which permits two distinct flush volumes) without undue experimentation, Zurn's only argument goes to whether one skilled in the art could practice the *commercial embodiment* (which permits two distinct flush volumes that differ by 30%) without undue experimentation. A patent specification need not disclose production specifications of a commercial embodiment, but the only way that Zurn's enablement argument could be accepted is if this Court were to require John Wilson to have disclosed the production specifications of the Sloan Uppercut® in his patent. Such a result is contrary to law. *N. Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 941 (Fed. Cir. 1990) (“[T]he patent document is not intended to be a production specification.”) (citing *Atlas Powder*, 750 F.2d at 1576).

**D. Zurn Agrees That The *Wilson* Patent Specification Teaches One of Ordinary Skill How to Make and Use a Flush Valve That Provides Two Flush Volumes.**

Mr. Magee testified at his deposition that, if he were to attempt to replicate the handle disclosed in the *Wilson* patent specification, he would start by making a handle assembly that has a bushing with a tilt angle of 7 degrees, which is what Mr. Magee measured the tilt angle to be as shown in the *Wilson* patent drawings. Ex. 8, Magee Dep. 79:10-24. Mr. Magee was then asked, if one copied what was shown in the *Wilson* patent drawings, whether the resulting flush valve would achieve some reduction in flush volume. Mr. Magee believed it would have:

Q: If you started with a device as shown in the figures that had a 7-degree tilt, what would the outcome have been?

A: What would the outcome have been? I don't know because I never did it.

\* \* \*

Q: Would it have given you two different flush volumes?

A: I think it would have.

Ex. 8, Magee Dep. 80:4-8; 80:16-18. Both sides agree, then, that the *Wilson* patent specification enables one of skill in the art to make and use a flush valve that provides two distinct flush volumes. Sloan Stmt. ¶ 61. Accordingly, Zurn's enablement defense fails as a matter of law.

**E. Zurn's Enablement Defense Also Fails Because Its Is Based On a Conclusory Opinion Unsupported By Fact.**

Mr. Magee's undue experimentation opinion also fails because it is conclusory and unsupported by fact. Unsupported expert opinions carry little probative weight in a validity determination such as enablement. *Cephalon*, 707 F.3d at 1338 (citing *Ashland Oil v. Delta Resins & Refractories*, 776 F.2d 281, 294 (Fed. Cir. 1985)). For example, unsubstantiated statements by an expert that experimentation would be "difficult" and "complicated" are not sufficient to establish that experimentation would be undue. *Id.* at 1339-40 & n.11. Similarly, Mr. Magee's testimony about experimentation that he "considers undue" lacks any substantiation. Mr. Magee does not address any of the *Wands* factors that are typically considered when determining whether experimentation is undue, and he also fails to mention any personal or professional experience that would have led him to make such a conclusion. Conclusory expert assertions do not give rise to a genuine issue of material fact. *Streck*, 665 F.3d at 1290. In *Streck*, the defendant's expert provided unsubstantiated testimony that "a large amount of experimentation" would be necessary. *Id.* at 1290. On cross examination, the expert admitted that he had never been involved in developing controls. *Id.* (affirming district court grant of judgment as a matter of law that patent disclosure was enabling).

Here, as in *Streck*, Mr. Magee has testified that he has absolutely no experience in designing any plumbing device, Sloan Stmt. ¶ 62, and that he would have no basis to contest an opinion by one who has experience designing flush valves that :

Q: Were you or had you been certified as a plumbing designer?

A: No.

\* \* \*

Q: Did you yourself ever design any sort of plumbing device that I would find in a bathroom?

A: No.

\* \* \*

Q: And you never designed a flush valve?

A: Absolutely not.

Q: If somebody who was experienced in designing flush valves were to testify that going from 7 degrees down to a lower number until you got to a flush valve that did flush 1.1 and 1.6 would take a matter of a day or less, would you have any basis for contesting that?

A: Absolutely not.

Ex. 8, Magee Dep. 7:24-8:2; 10:8-10; 89:21-90:5. Accordingly, there is no factual basis for Mr. Magee's opinion about experimentation he "considers undue." Mr. Magee is simply not qualified to opine about what constitutes undue experimentation in the flush valve industry,<sup>7</sup> and he has admitted he cannot contest the evidence in the record that that one of ordinary skill in the art, after reviewing the *Wilson* patent, could sit down for a single day's worth of routine engineering

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<sup>7</sup> See also Mem. Supp. Pl.'s Mot. Strike Richard Magee's Expert Rpts., filed contemporaneously herewith.

analysis and make an embodiment of the claimed invention that would permit a reduced flush volume of that person's choosing. Sloan Stmt. ¶¶ 63-64.

## **VIII. SLOAN IS ENTITLED TO SUMMARY JUDGMENT AS TO ZURN'S WRITTEN DESCRIPTION DEFENSE**

### **A. Legal Standard For Written Description.**

A patent's specification must contain a written description of the invention. 35 U.S.C. § 112 ¶ 1 (2006). A specification adequately describes an invention when it "reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date." *Pozen Inc. v. Par Pharm., Inc.*, 696 F.3d 1151, 1166 (Fed. Cir. 2012). The disclosure as originally filed does not have to provide *in haec verba* support for the claimed subject matter at issue, but rather must convey with reasonable clarity to those skilled in the art that the inventor was in possession of the invention. *Id.* (citation omitted).

In order to prevail on its defense of invalidity for lack of written description, Zurn must prove with clear and convincing evidence that the written description requirement has not been satisfied. *Invitrogen Corp. v. Contech Labs., Inc.*, 429 F.3d 1052, 1072 (Fed. Cir. 2005). Compliance with the written description requirement is a question of fact, but is amenable to summary judgment in cases where no reasonable fact finder could return a verdict for the nonmoving party. *Streck*, 665 F.3d at 1285.

### **B. Zurn's Written Description Argument Is Based On Its Erroneous Interpretation Of The Scope Of The *Wilson* Patent Claims.**

Zurn relies on the expert report of Mr. Magee, who opines that the *Wilson* patent specification "does not provide an adequate written description of how to achieve a horizontal axis of plunger travel and an angled axis of plunger travel." Ex. 10, Magee Inv. Rpt. ¶ 51. Mr. Magee's written description opinion stems from his interpretation that the *Wilson* patent claims require a plunger to travel along a straight, horizontal line for the **entire** length of plunger travel.

*See supra* at 10-14. For the reasons stated above, which are incorporated here by reference, Zurn's claim scope interpretation is incorrect as a matter of law. If the Court rejects Zurn's erroneous claim interpretation, Zurn's written description argument must also fail, and summary judgment should be granted for Sloan. Zurn has not presented any evidence that the *Wilson* patent specification fails to provide an adequate written description of how to achieve horizontal and angled axes of plunger travel under an interpretation where those claim elements do not require the plunger to travel on a straight line throughout the entire length of plunger travel. Sloan Stmt. ¶ 65.

## **IX. CONCLUSION**

For the foregoing reasons, Sloan respectfully requests that the Court enter judgment for Sloan on its claim for direct infringement of claims 1, 4-6, 10-11, 19, and 29-31 of the *Wilson* patent, in favor of Sloan on Zurn's affirmative defenses and counterclaims of anticipation and obviousness as to all asserted claims of the *Wilson* patent other than claim 12, and in favor of Sloan on Zurn's affirmative defenses and counterclaims of best mode, enablement, and written description under 35 U.S.C. § 112 as to all of the asserted claims of the *Wilson* patent..

Dated: June 10, 2013

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I, Jason A. Berta, an attorney, hereby certify that on June 10, 2013, I caused to be filed electronically MEMORANDUM OF LAW IN SUPPORT OF PLAINTIFF SLOAN VALVE COMPANY'S MOTION FOR SUMMARY JUDGMENT, DECLARATION OF JASON A. BERTA IN SUPPORT OF SLOAN'S MOTION FOR SUMMARY JUDGMENT and supporting EXHIBITS, and the AFFIDAVIT OF JULIUS BALLANCO IN SUPPORT OF SLOAN'S MOTION FOR SUMMARY JUDGMENT with the Clerk of the Court using the CM/ECF system, which will send an electronic copy of the foregoing to counsel of record and constitutes service under Federal Rule of Civil Procedure 5(b)(2)(D) pursuant to Local Rule 5.9 of the Northern District of Illinois.

/s/ Jason A. Berta